

## SPHAERIIDS FROM THE ALEUTIAN ISLANDS

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With one text-figure and Plate 6

From Mr. W. J. Eyerdam, Seattle, I received for identification a small collection of Sphaeriids that he had brought back from the Aleutian Islands, a district, from where, as far as I know, no identified species of these small freshwater mussels has been recorded. That the genus *Pisidium* is represented in those islands, is, however, a known fact, since Dall (1897) stated the occurrence of *Pisidium* "on many of the Aleutians," but no definite species seems to have been mentioned in the literature. One of the species in Mr. Eyerdam's collection is named by Sterki after the collector, but I cannot find any literary reference to this species, so it seems to be undescribed, and, besides, it proves to belong to a species already known. Though small, the present collection therefore offers a faunistic interest, the more so, as it confronts us with the question about identical species in the Eurasian and the American faunas. The material collected consists exclusively of dried specimens, which is regrettable, since an examination of the soft parts is in many cases the only means of getting a sure determination of the species of *Pisidia*. Only five species have been discriminated.

SPHAERIUM NITIDUM Clessin. Unimak Island, False Pass, in a lake (Aug. 1932), several sps., max. length 6.5 mm.; Amlia Island, in a lake (July 1932), numerous sps., max. length about 8 mm. The species is easily recognized in its very fine and regular costulation of the umbonal region (fig. 6), a character not met with in any other species of *Sphaerium*. The Eurasian *Sphaerium corneum* has smooth umbones and attains a larger size. The two species are different also in the soft parts, *e.g.*, the proportions of gills and the shape of nephridium, as I have shown in 1929 (*l.c.*, figs. 16-18).

The presence in the Aleutians of *Sph. nitidum*, originally described from western Siberia, is rather surprising, since no reports of its occurrence in the eastern parts of Siberia are available. This depends, no doubt, on the relative scarcity of

collecting work in those regions and on lack of acquaintance with the species and its characters. These are, however, described by me in a brief account of its habitus and distribution in 1921 (*cf.* Literature), when first I recorded it as a Scandi-

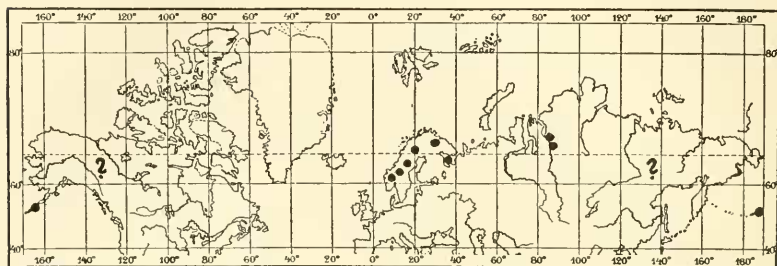


Fig. 1. Distribution of *Sphaerium nitidum* Clessin.

navian inhabitant, and in 1929. The map, text figure 1, shows its distribution as hitherto known. It was originally described in Westerlund's work (1877) on the Siberian mollusca (in Swedish), where it was reported from two localities on the lower Jenissei: Lusino, 68° 40' N., and Dudino, 69° 15' N. In 1937, I gave a summary of its distribution in N. Russia (it occurs probably in the Solowetski Islands) and Finland, as well as in the Scandinavian Peninsula, from North Sweden south to Härjedalen, and from Northern Norway south to Gjøvik; generally, it is met with next to the highest regions of the peninsula.

The Scandinavian distribution of *Sph. nitidum* leads one to suppose that its immigration has taken place in postglacigene time from the northeastern parts of Europe, and that, on account of its route being across the course of the rivers, it has been dispersed by means of waterfowl. The isolated occurrences on the two Aleutian islands seems to be explainable only by the same assumption, in which case it certainly has had, or still has, a foothold on the continental coasts, like the *Pisidium* species below.

*PISIDIUM CINEREUM* Alder (= *casertanum* Poli). Akatan Island, NE. of whaling station, in a pond (June 1934, I. Norberg), a few sps., max. length 4 mm.; the same island, in a small lake (Aug. 1934, I. Norberg), a few sps., max. length 4.6 mm.;

besides, the same species is taken on Kodiak Island, Three Saints Bay, in a pond (Aug. 1931, Eyerdam) and sent me as paratypes under the name of *P. eyerdami* Sterki (max. length 4 mm.), and from Cordova, Alaska, in a creek (May 1936, I. Norberg), a few sps., max. length 3.7 mm. Considering the great variability of this species, it may be remarked that it offers some slight modifications of shape in different localities, even in the same island (Akatan); the lake form (fig. 1) differs here from the pond form in its pale straw yellow color, its somewhat more posterior umbones and its straighter cardinals, and it is very similar to *P. subtruncatum*, though less oblique; the animal, however, has the characters of *P. cinereum* in its well separated mantle margins. The pond form, on the other hand, has the same grayish color and the more median umbones as in the Alaskan specimens (from Cordova and Kodiak, fig. 3), though these in their turn have less prominent umbones and a greater height of shell. These slight differences in shape cannot be considered as of specific importance the more so, as the animal in all cases has the characters of *P. cinereum*, as far as could be established on the dried material, and for these reasons I cannot accept *P. eyerdami* as a distinct species.

I have compared the present forms of *P. cinereum* with the *Pisidia* described by Westerlund (1877) from Siberia and Alaska, and I have found the Akatan lake form to agree closely with specimens from Port Clarence determined by Westerlund as *P. sibiricum* Clessin (collected by the Vega Expedition the 23rd-26th of July 1879). The Kodiak form is more like *P. boreale* from Siberia in its depressed umbones. These two "species" were listed all right as synonyms of *P. cinereum* by Woodward (1913), and the same was the case with *P. nordenskjöldi*. As to the Akatan pond form, this is most similar to a form of *P. cinereum* that I got from Mr. Eyerdam from Kamtchatka (gulf of Kronotski, in a small stream, coll. July 1925) and that has been identified by Sterki as *P. roseum* Scholtz (which is likewise identical with *P. cinereum*).

In this connection it may be mentioned that among the *P. sibiricum* (stored in the Swedish Riksmuseum and determined by Westerlund) from Port Clarence (Vega Exp.) were a good

many specimens of *P. obtusale* Pfeiffer (= *obtusalastrum* Woodward), which had not been discriminated by Westerlund. This species (fig. 2), hitherto not recorded from N. America, thus proves to belong to the American Arctic fauna. The specimens are similar to the general boreal form (e.g., from Sweden) and have a similar ovoid (not oblique) shape, and short, almost straight inner cardinal in the left valve; the largest specimen is 3.2 mm. in length.

*PISIDIUM LILLJEBORGI* Clessin (fig. 4). Woodward (1913) includes in his list of synonyms of *P. cinereum*, with a query, *P. arcticum* Westerlund, from Port Clarence. This species, the type of which is in the Swedish Riksmuseum, has proved, on my examination, to be identical with *P. lilljeborgi* Clessin, inasmuch as shape and denticulation are similar. *P. arcticum* has the same oblique prolongation towards front and below as typical specimens of *P. lillejeborgi*. With the present species I think we have to unite also *P. scutellatum* which Sterki described in 1896 from Lake Michigan (relatively deep water) and which he reports from the Pribilof Islands in 1917. Judging from the illustrations by Baker (1902, pl. XXXI, fig. 14), shape and dentition are in good agreement in both forms, and *P. scutellatum* has a distribution in America (lakes and high mountains, from "Vermont, the Great Lakes region, west to Colorado and north as far as the Yukon Territory," Mozley 1931), which corresponds well to its distribution in Europe and Asia (to the vicinity of Lake Baical, Mozley 1935).

*P. lilljeborgi* is present in the Eyerdam collection, too, namely from Unimak Island, False Pass, together with *Sph. nitidum*, a few sps., max. length 3.8 mm. It differs, however, from the typical form in being less oblique, the frontal margin being more curved, and the whole outline thus well rounded (fig. 4). On account of its thinner shell, the present form has its hinge plate very narrow and its cardinals almost straight and more elongate than in *P. obtusale*; the ligament fossule is also long and narrow in comparison with that of the latter species from P. Clarence. A similar rounded form of *P. lilljeborgi* has been figured by Woodward (1913, pl. 28, figs. 13, 17, 22).

*PISIDIUM MILIUM* Held. Only one specimen of this species was

found in Akatan Island, together with *P. cinereum* (Aug. 1934, I. Norberg), 2.4 mm. in length. It differs somewhat (fig. 5) from Scandinavian specimens in its front being more rounded instead of obliquely protruding below. The dentition, however, proves the identity, and the mantle margins, as far as could be ascertained from the dried animal, were coalesced, quite as in the type, for some length in front of the branchial opening. *P. milium* is not an unexpected inhabitant of the Aleutians, because it has a wide distribution not only in the Palaearctic region, but according to Sterki (1926) also in North America "from New England and New York to Ontario, Michigan, Manitoba, to western Washington, also in the Rocky Mountains of Colorado, at high altitudes."

*PISIDIUM CONVENTUS* Clessin. To this species I refer a very small specimen (length 1.7 mm.) from Unimak Island, False Pass, found together with *P. lilljeborgi*. Though it is very difficult to examine *Pisidia* of small size and especially young ones, I do not hesitate to identify the present empty shell with this well characterized Arctic species, on account of its shape, dentition and microscopic sculpture. Consequently, also this Arctic species belongs to the American fauna, though it still remains to be detected on the American continent. It seems to be the most hardy mollusc in the Arctic region, as it has been found living on such extreme latitudes as in Novaya Zemlya, and it has a distribution from N. Scandinavia southwards to the Alpine lakes, where it was described by Clessin in 1877, who later on discriminated a lot of "species" inhabiting each its own deep lake, most of them, however, mere modifications of *P. conventus*, as I have shown in 1923. Later *P. conventus* was found in Great Britain, Finland and Siberia (Lake Teletsk). It is the type of the subgenus *Neopisidium* characterized in having only a single gill on each side, a single mantle siphon and a simple nephridium. For further information I refer to my paper of 1937 (see below).

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## A TRIAD OF UMBILICATE *LATIRUS*, RECENT AND PLIOCENE

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Two large and peculiar species of *Latirus* are among the recent discoveries of Messrs. Tom McGinty and Maxwell Smith in southern Florida. A third related species from St. Thomas is described in this connection.

*LATIRUS MCGINTYI*, new species. Pl. 5, fig. 8.

The shell is strong and solid, openly umbilicate, fusiform, the spire tapering rather slowly (the early whorls lost in the type); the periphery (measured in front) about midway of the length; anterior part of the last whorl cylindrical, terminating in a narrow siphonal fasciole around a large, funnel-shaped umbilicus. Suture not deeply impressed. Sculpture of heavy rounded axial folds at the periphery and downward to the basal contraction, eight on each of the later whorls. These are crossed by about five spiral cords, more prominent in the intervals of the folds, the lower two being contiguous and forming a weak angulation next to the basal concavity; there are also several low, unequal spirals on the